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EXAMINER
MENBERU, BENIYAM

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/843,406	ZENG, HUANZHAO
	Examiner	Art Unit
	Beniyam Menberu	2626

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _26 April 2001_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-32_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-32_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _26 April 2001_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _4/26/01, 1/13/03, 11/28/03_ .
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   The disclosure is objected to because of the following informalities:

On page 10, line 12, the phrase "printer gamut 94 will" should be "printer gamut 94 will be".

On page 11, line 23, the K-mapping function is referred as 108 but in Figure 3 it is referred as 106.

Appropriate correction is required.

2.   Applicant please note that since claim 22 is missing, claims 23-33 have been renumbered as 22-32, respectively.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description: Remote output color profile data structure 128 on page 12, line 18, 21. Open color management system 28 on page 8, line 5. There are other instance of reference 28 in the specification but only the first occurrence is listed. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing

figures. If the changes are not accepted by the examiner, the applicant will be notified

and informed of any required corrective action in the next Office action. The objection

to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1, 16, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by

U.S. Patent No. 6778300 to Kohler.

Regarding claims 1, Kohler discloses an open color management system

allowing any of a plurality of input color devices to share data with any of a plurality of

output color devices comprising (column 5, lines10-15; column 5, lines 54-67; column 6,

lines 1-2):

a networked connection space for input and output device communication (column 6,

lines 2-5);

an input color profile for each input device (Figure 5, reference 180; column 10, lines 8-

15);

an output color profile for each output device (Figure 5, reference 185; column 10, lines

35-39);

and an open color manager to link a given input device with a selected output device

(Figure 5, reference 144, 210, 230; column 9, lines 61-67), including a configuration to

parse an input color space data set comprising black plus multiple color channels

(column 9, lines 63-65) with the input and output color profiles (Figure 5, reference 180,

185) at a job time to create an output color space data set comprising black plus

multiple color channels for imaging by said selected output device (column 11, lines 10-

13) while substantially preserving black channel information (column 11, lines 35-45).

Regarding claim 16, Kohler discloses an open color management system as in

claim 1 wherein: said given input device is personal computers (Figure 1, reference 41)

and said selected output device is selected from the group consisting of inkjet printers

(Figure 1, reference 50; column 5, lines 54-56).

Regarding claim 26, Kohler further discloses method comprising initiating

contact with a selected output device by a given input device (column 9, lines 64-67;

column 10, lines 1-3) and linking an input color profile with an output color profile

(Figure 5, reference 180,185, 144).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent No. 6778300 to Kohler in view of U.S. Patent No. 6268930 to Ohta et al.

Regarding claim 2, Kohler teaches all the limitations of claim 1. Further Kohler

discloses an open color management system as in claim 1 wherein: said open color

manager resides on said given input device (Figure 1, reference 40; Figure 2, reference

144; column 6, lines 6-8; column 6, lines 50-53); said given input device provides said

input color profile (Figure 2, reference 139-143). However Kohler does not disclose an

open color management system wherein said selected output device provides said

output color profile.

Ohta et al disclose a system wherein said selected output device provides said

output color profile (column 23, lines 59-64).

Kohler and Ohta et al are combinable because they are in the similar problem

area of color management.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the output device containing device profile as taught by Ohta

et al with the color management system of Kohler.

The motivation to combine the reference is clear because it would be

convenient to store the device profile in the output device to save space in the color

management system.

Regarding claim 6, Kohler teaches all the limitations of claim 1. Further Kohler

discloses a system wherein: said open color manager resides on said selected output

device (column 5, lines 19-25); said given input device provides said input color profile

(Figure 2, reference 139-143). Further Ohta et al disclose a system wherein said

selected output device provides said output color profile (column 23, lines 59-64).

8.   Claims 3, 7, 9, 11, and 13 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 6778300 to Kohler in view of U.S. Patent Application

Publication No. US 2002/0161659 A1 to Veilleux et al.

Regarding claim 3, Kohler teaches all the limitations of claim 1. Further Kohler

discloses an open color management system as in claim 1 wherein: said open color

manager resides on said given input device (Figure 1, reference 40; Figure 2, reference

144; column 6, lines 6-8; column 6, lines 50-53); said given input device provides said

input color profile (Figure 2, reference 139-143). However Kohler does not disclose a

remote database, which also communicates on said network connection space,

provides said output color profile.

Veilleux et al disclose a remote database, which also communicates on said

network connection space, provides said output color profile (page 19, paragraph 220,

lines 7-12).

Kohler and Veilleux et al are combinable because they are in the similar

problem area of color management.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the remote database with output color profile with the color

management system of Kohler.

The motivation to combine the reference is clear because remote users can update output color profile using this method.

Regarding claim 7, Kohler teaches all the limitations of claim 1. Further Kohler discloses an open color management system as in claim 1 wherein: said open color manager resides on said selected output device (column 5, lines 19-25); said given input device provides said input color profile (Figure 2, reference 139-143); and a remote database, which also communicates on said network connection space, provides said output color profile (page 3, paragraph 48, lines 1-6; page 4, paragraph 55, lines 4-7).

Regarding claim 9, Kohler teaches all the limitations of claim 1. Further Kohler discloses an open color management system as in claim 1 wherein said open color manager resides on said selected output device (column 5, lines 19-25); a remote database, communicating on said network connection space, provides said input color profile; and the remote database provides said output color profile (page 3, paragraph 48, lines 1-6; page 4, paragraph 55, lines 4-7).

Regarding claim 11, Kohler teaches all the limitations of claim 1. Further Kohler in view of Veilleux et al disclose an open color management system as in claim 1 wherein: said open color manager resides on a remote processing device communicating on said networking connection space (Veilleux et al: page 19, paragraph 216, lines 6-8, page 8, paragraph 101); said given input device provides said input color profile (Kohler: Figure 2, reference 139-143); and a remote database, communicating

on said networking connection space, provides said output color profile (page 19, paragraph 220, lines 7-12).

Regarding claim 13, Kohler teaches all the limitations of claim 1. Further Kohler in view of Veilleux et al disclose an open color management system as in claim 1 wherein: said open color manager resides on a remote processing device communicating on said networking connection space (Veilleux et al: page 19, paragraph 216, lines 6-8, page 8, paragraph 101); a remote database, communicating on said networking connection space, provides said input color profile (Veilleux et al: page 19, paragraph 220, lines 7-12); and the remote database provides said output color profile (Veilleux et al: page 19, paragraph 220, lines 7-12).

9.   Claims 4, 5, 8, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6778300 to Kohler in view of U.S. Patent No. 6268930 to Ohta et al further in view of U.S. Patent Application Publication No. US 2002/0161659 A1 to Veilleux et al.

Regarding claim 4, Kohler teaches all the limitations of claim 1. Further Kohler discloses an open color management system as in claim 1 wherein: said open color manager resides on said given input device (Figure 1, reference 40; Figure 2, reference 144; column 6, lines 6-8; column 6, lines 50-53). However Kohler does not disclose a system wherein a remote database, which also communicates on said network connection space, provides said input color profile; and said selected output device provides said output color profile.

Veilleux et al disclose a remote database, which also communicates on said network connection space, provides said input color profile (page 19, paragraph 220, lines 7-12).

Ohta et al disclose a system wherein said selected output device provides said output color profile (column 23, lines 59-64).

Kohler, Ohta et al, and Veilleux et al are combinable because they are in the similar problem area of color management.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the profile storing systems of Veilleux et al and Ohta et al with the system of Kohler to implement a color management system.

The motivation to combine the reference is clear because Veilleux et al system provides remote users access to the profile and Ohta et al system provides a convenient way for users at the site of the output device to change profiles.

Regarding claim 5, Kohler teaches all the limitations of claim 1. Further, Kohler discloses a remote database, which also communicates on said network connection space, provides said input color profile; and the remote database provides said output color profile (page 3, paragraph 48, lines 1-6; page 4, paragraph 55, lines 4-7).

Regarding claim 8, Kohler teaches all the limitations of claim 1. Further, Kohler discloses an open color management system wherein said open color manager resides on said selected output device (column 5, lines 19-25). Further Veilleux et al disclose a remote database, which also communicates on said network connection space, provides said input color profile (page 19, paragraph 220, lines 7-12) and Ohta et al

disclose a system wherein said selected output device provides said output color profile

(column 23, lines 59-64).

Regarding claim 10, Kohler teaches all the limitations of claim 1. Further Kohler

in view of Ohta et al further in view of Veilleux et al disclose an open color management

system as in claim 1 wherein: said open color manager resides on a remote processing

device communicating on said networking connection space (Veilleux et al: page 19,

paragraph 216, lines 6-8, page 8, paragraph 101); said given input device provides said

input color profile (Kohler: Figure 2, reference 139-143); and said selected output device

provides said output color profile (Ohta et al: column 23, lines 59-64).

Regarding claim 12, Kohler teaches all the limitations of claim 1. Further Kohler

in view of Ohta et al further in view of Veilleux et al disclose an open color management

system as in claim 1 wherein: said open color manager resides on a remote processing

device communicating on said networking connection space (Veilleux et al: page 19,

paragraph 216, lines 6-8, page 8, paragraph 101); a remote database, communicating

on said networking connection space, provides said input color profile (Veilleux et al:

page 19, paragraph 220, lines 7-12); and said selected output device provides said

output color profile (Ohta et al: column 23, lines 59-64).

10.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6778300 to Kohler in view of U.S. Patent No. 6697167 to Takahashi.

Regarding claim 14, Kohler teaches all the limitations of claim 1. Kohler discloses input color space of the CMYK space (column 1, lines 8-11). However Kohler does not disclose an open color management system as in claim 1 wherein said input color space dataset is further selected from the group consisting of SWOP CMYK, and Euro CMYK.

Takahashi discloses color samples for printing calibration wherein samples are of the form SWOP CMYK and Euro CMYK (Figures 31b, 31d; column 26, lines 37-42).

Kohler and Takahashi are combinable because they are in the similar problem area of color images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the SWOP and EURO CMYK color space taught by Takahashi as input to the system of Kohler.

The motivation to combine the reference is clear because Takahashi suggests the popularity of such color space by users (Column 25, lines 40-45).

11.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6778300 to Kohler in view of U.S. Patent No. 6595612 to Brown et al.

Regarding claim 15, Kohler teaches all the limitations of claim 1. Kohler discloses an open color manager which outputs CMYK color space. However Kohler does not disclose an open color management system as in claim 1 wherein said output color space dataset is further selected from the group consisting of CMYK-plus-light magenta-plus-light cyan, and CMYK-plus-orange-plus green.

Brown et al disclose an open color management system wherein said output color space dataset is further selected from the group consisting of CMYK-plus-light magenta-plus-light cyan, and CMYK-plus-orange-plus green (column 1, lines 41-49).

Kohler and Brown et al are combinable because they are in the similar problem area of color image printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the CMYK-plus-light magenta-plus-light cyan, and CMYK-plus-orange-plus green capabilities of Brown et al 's system into the system of Kohler to implement six color image printing.

The motivation to combine the reference is clear because Brown et al teaches that using the extra colors in addition to CMYK can increase the gamut (column 10, lines 33-37).

12.   Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6778300 to Kohler in view of U.S. Patent No. 6480299 to Drakopoulos et al.

Regarding claim 17, Kohler teaches all the limitations of claim 1. Kohler discloses an open color management system as in claim 1, wherein said input color profile further comprises: input look-up table for conversion from said input color space dataset to a profile connection space while preserving any input black information (column 9, lines 5-12; column 11, lines 35-45). However, Kohler does not disclose color profile further comprising an input gamut surface data set.

Drakopoulos et al disclose color profile further comprising an input gamut surface data set (column 13, lines 28-35;column 14, lines 48-50).

Kohler and Drakopoulos et al are combinable because they are in the similar problem area of color management.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the color profile with gamut data with the system of Kohler to implement a robust color management system.

The motivation to combine the reference is clear because the gamut surface data is necessary for accurate printing as taught by Drakopoulos (column 13, lines 35-41).

Regarding claim 18, Kohler in view of Drakopoulos et al teach all the limitations of claim 17. Further, Kohler in view of Drakopoulos et al disclose an open color management system as in claim 17, wherein said output color profile further comprises:

an output gamut surface data set (Drakopoulos et al: column 13, lines 28-33;column 14, lines 48-50);

an output look-up table for conversion from said output color space dataset to said profile connection space while preserving any output black information (Kohler: column 9, lines 40-47; column 11, lines 35-45). However Kohler in view of Drakopoulos et al does not disclose an output ink limit dataset to be used in conjunction with said output gamut surface data set.

Drakopoulos et al disclose color profile further comprising an output ink limit dataset to be used in conjunction with said output gamut surface data set (column 16, lines 5-14; column 17, lines 20-34).

13.   Claims 19, 20, 21, 25, 28, 29, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6778300 to Kohler in view of U.S. Patent No. 6480299 to Drakopoulos et al further in view of U.S. Patent No. 6088038 to Edge et al.

Regarding claims 19, Kohler in view of Drakopoulos et al teach all the limitations of claim 18. Regarding claims 19 and 28, Kohler in view of Drakopoulos et al disclose an open color management system, wherein said open color manager further comprises:

a processing means for transforming said input color space dataset to said profile connection space (Kohler: column 9, lines 5-12; column 11, lines 35-45). Further Kohler in view of Drakopoulos et al disclose an optional processing means for applying said optional output ink limit data set to said gamut mapping function to optimize said gamut mapping function (Drakopoulos et al: column 16, lines 5-14; column 17, lines 20-34). Further Kohler in view of Drakopoulos et al disclose a processing means for comparing, in said profile connection space, said input gamut surface data set with said output gamut surface data set to determine a gamut mapping function (Drakopoulos et al: column 14, lines 48-54, lines 58-65). Further Kohler in view of Drakopoulos et al disclose a processing means for adjusting said profile connection space data from said given input device to said selected output device by applying said gamut mapping

function (Drakopoulos et al: column 14, 58-65). Further Kohler discloses a processing

means for converting said gamut-adjusted profile connection space data to said output

color space dataset by applying said output lookup table from said output color profile

(column 10, lines 61-66). However Kohler in view of Drakopoulos et al does not disclose

a processing means wherein transforming said input color space dataset to said profile

connection space includes said input black information, a black mapping function that is

determined from gamut comparison, a processing means for applying said black

mapping function to said input black information to determine said output black

information, thereby enabling direct control of said output black information by adjusting

said input black information.

Edge et al disclose a color space transformation wherein transforming said

input color space dataset to said profile connection space includes said input black

information (column 11, lines 57-67). Further Edge et al disclose a black mapping

function determined from gamut comparison (column 11, lines 6-9, lines 14-16,lines 30-

36) and a processing means for applying said black mapping function to said input black

information to determine said output black information, thereby enabling direct control of

said output black information by adjusting said input black information (column 11, lines

14-20).

Kohler, Drakopoulos et al, and Edge et al are combinable because they are in

the similar problem area of color management.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the black mapping and black channel preservation taught by

Edge et al with the system of Kohler to implement an accurate color management system.

The motivation to combine the reference is clear because Edge et al teach that accuracy requires proper processing of the black channel information (column 11, lines 57-60, lines 15-21).

Regarding claims 20 and 29, Kohler in view of Drakopoulos et al further in view of Edge et al teach all the limitations of claims 19 and 28 respectively. Further, Edge et al disclose an open color management system as in claim 19, wherein said profile connection space is CIE L*a*b (column 4, lines 28-31).

Regarding claims 21 and 30, Kohler in view of Drakopoulos et al further in view of Edge et al teach all the limitations of claims 19 and 28 respectively. Further, Edge et al disclose an open color management system as in claim 19, wherein said profile connection space is CIE XYZ (column 11, lines 63-66).

Regarding claim 25, Kohler in view of Drakopoulos et al further in view of Edge et al disclose an open color management system wherein: said given input device is selected from the group consisting of personal computers (Figure 1, reference 41) and said selected output device is selected from the group consisting of inkjet printers (Figure 1, reference 50; column 5, lines 54-56).

Regarding claim 32, Kohler in view of Drakopoulos et al further in view of Edge et al disclose an open color management system allowing any of a plurality of input color devices to share data with any of a plurality of output color devices comprising (Kohler: column 5, lines10-15; column 5, lines 54-67; column 6, lines 1-2):

a networked connection space for input and output device communication (Kohler:

column 6, lines 2-5);

an input color profile for each input device comprising: an input gamut surface data set;

(Kohler: Figure 5, reference 180; column 10, lines 8-15; Drakopoulos et al : column 13,

lines 28-33;column 14, lines 48-50);

and an input look-up table for conversion from said input color space dataset to CIE

L*a*b* profile connection space while preserving any input black information; (Kohler:

column 9, lines 5-12; column 11, lines 35-45; Edge et al : column 4, lines 28-31; Kohler:

column 11, lines 35-45);

an output color profile for each output device comprising: an output gamut surface data

set; (Kohler : Figure 5, reference 185; column 10, lines 35-39; Drakopoulos et al:

column 13, lines 28-33;column 14, lines 48-50);

and an output look-up table for conversion from said output color space dataset to said

CIE L*a*b* profile connection space while preserving any output black information

(Kohler: column 9, lines 40-47; column 11, lines 35-45; Kohler: column 11, lines 35-45);

and an open color manager comprising as disclosed in claim 19 with CIE L*a*b* as

profile connection space (Edge et al: column 4, lines 28-31).

14.   Claims 22 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent No. 6778300 to Kohler in view of U.S. Patent No. 6480299 to

Drakopoulos et al further in view of U.S. Patent No. 6088038 to Edge et al further in

view of U.S. Patent No. 6633668 to Newman.

Regarding claims 22 and 31, Kohler in view of Drakopoulos et al further in view of Edge et al teach all the limitations of claims 19 and 28 respectively. However, Kohler in view of Drakopoulos et al further in view of Edge et al does not disclose a profile connection space which is CIE CAM97 Jab.

Newman discloses a profile connection space which is CIE CAM97 Jab (column 3, lines 3-11).

Kohler, Drakopoulos et al, Edge et al, and Newman are combinable because they are in the similar problem area of color management.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the CIE CAM97 JAB color space as profile connection space as taught by Newman into the system of Kohler in view of Drakopoulos et al further in view of Edge et al.

The motivation to combine the reference is clear because Newman teaches that the CIE CAM97 Jab color space is preferred for viewing condition that is independent (column 8, lines 16-20).

15.   Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6778300 to Kohler in view of U.S. Patent No. 6480299 to Drakopoulos et al further in view of U.S. Patent No. 6088038 to Edge et al further in view of U.S. Patent No. 6697167 to Takahashi.

Regarding claim 23, Kohler in view of Drakopoulos et al further in view of Edge et al teach all the limitations of claim 19. Kohler discloses input color space of the CMYK space (column 1, lines 8-11). However, Kohler in view of Drakopoulos et al

further in view of Edge et al does not disclose input color space dataset further selected

from the group consisting of SWOP CMYK, and Euro CMYK.

Takahashi discloses color samples for printing calibration wherein samples are

of the form SWOP CMYK and Euro CMYK (Figures 31b, 31d; column 26, lines 37-42).

Kohler, Drakopoulos et al, Edge et al and Takahashi are combinable because

they are in the similar problem area of color management.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the SWOP and EURO CMYK color space taught by Takahashi

as input to the system of Kohler in view of Drakopoulos et al further in view of Edge et

al.

The motivation to combine the reference is clear because Takahashi suggests

the popularity of such color space by users (Column 25, lines 40-45).

16.   Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6778300 to Kohler in view of U.S. Patent No. 6480299 to Drakopoulos et al

further in view of U.S. Patent No. 6088038 to Edge et al further in view of U.S. Patent

No. 6595612 to Brown et al.

Regarding claim 24, Kohler in view of Drakopoulos et al further in view of Edge et

al teach all the limitations of claim 19. Kohler discloses an open color manager which

outputs CMYK color space (Figure 5, reference 230).

Brown et al disclose an open color management system wherein said output

color space dataset is further selected from the group consisting of CMYK-plus-light

magenta-plus-light cyan, and CMYK-plus-orange-plus green (column 1, lines 41-49).

Kohler, Drakopoulos et al, Edge et al, and Brown et al are combinable because they are in the similar problem area of color management.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the CMYK-plus-light magenta-plus-light cyan, and CMYK-plus-orange-plus green capabilities of Brown et al 's system into the combined system of Kohler, Drakopoulos et al, Edge et al, and Brown et al to implement six color image printing.

The motivation to combine the reference is clear because Brown et al teaches that using the extra colors in addition to CMYK can increase the gamut (column 10, lines 33-37).

17.   Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6778300 to Kohler in view of U.S. Patent No. 5319473 to Harrington further in view of U.S. Patent No. 5726778 to Tanio.

Regarding claim 27, Kohler teaches all the limitations of claim 26. Kohler teaches color conversion while substantially preserving black channel information (column 11, lines 35-45). However Kohler does not disclose a method for open color management according to claim 27, wherein: said processing an input color data set further comprises processing said input color data set through a real-time gamut mapping and color space conversion.

Harrington discloses a method for processing an input color data set further comprises processing said input color data set through a real-time gamut mapping (column 4, lines 11-17).

Tanio discloses a method for processing an input color data set further

comprises processing said input color data set through a real-time color conversion

(column 11, lines 34-37).

Kohler, Harrington, and Tanio are combinable because they are in the similar

problem area of color management.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the real-time gamut mapping and color conversion of

Harrington and Tanio into the system of Kohler to implement a real-time color

management system.

The motivation to combine the reference is clear because instantaneous

changes in color input can be adjusted for in a real-time color management system.

Other Prior Art Cited

18.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

U.S. Patent No. 6466334 to Komiya et al discloses a color reproduction device

with input profile.

U.S. Patent No. 6643029 to Kumada et al disclose an image processor and

method with preview of image capability.

U.S. Patent No. 6707573 to Ito et al disclose an image processor with scanning

and image editing.

U.S. Patent No. 6424352 to Sharma et al disclose input profile generation.

U.S. Patent Application Publication No. US 2002/0105660 A1 to Haikin disclose

a color management system with color profile.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Beniyam Menberu whose telephone number is (703)

306-3441. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kimberly Williams can be reached on (703) 305-4863. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the customer service office whose telephone number

is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

Patent Examiner

Beniyam Menberu

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER

11/12/2004